

Application No.: 10/673,764
Attorney Docket No.: SHA-129
Amendment Dated: 2 August 2005
Reply for Final Office Action Dated: 30 June 2005

REMARKS

Claims 19, 30-31, 38, 41, 43, and 47-49 have been cancelled herein. Applicant inadvertently indicated in the Response filed 11 April 2005 that Claims 19, 30-31, 38, 41, 43, and 47-49 were withdrawn. The correct status should be cancelled.

Claims 1-49 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,165,700 to Stoll et al. ("Stoll").

Claims 1, 20, 29, 35, 42, and 46 are independent.

Claim 1, for example, sets forth, inter alia, "a bearing device bonded to said housing at the inner surface thereof." (Emphasis added.) As a result of such bonded connection, the bearing device is fixedly mounted and secured to the housing. However, in Stoll, there is no such bonded arrangement or other fixed attachment between housing 3 and rod guide bushing 41 (which has projection elements 44 cited by the Examiner). (Fig. 6.)

Referring to the rejection, the Examiner considers the recited "housing" to be met by structure 3 and the recited "bearing device" to be met by structure 44. The Examiner relies upon Fig. 6 of Stoll to disclose the combination of elements recited in Claim 1, specifically the purported bonding connection between housing 3 and bushing projections 44.

Referring to Fig. 6 of Stoll, a rod guide bushing 41 is annularly disposed about rod-like component 2. As shown in Figs. 7-8, bushing 41 includes an arrangement of individual rib-like projections 44 spaced circumferentially about bushing 41 and extending both radially (Fig. 7) and axially (Fig. 8). (Col. 7, line 44 to Col. 8, line 9.)

The Examiner believes that Fig. 6 shows a bonded connection between bushing projection 44 and housing 3. Notably, apart from the illustration afforded by Fig. 6, no other

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disclosure from Stoll is cited to substantiate the assertion that Stoll meets the claim limitation of "a bearing device bonded to said housing at the inner surface thereof." Specifically, the rejection makes no reference to any descriptive text from Stoll, i.e., the rejection does not cite any express disclosures in Stoll (apart from the Fig. 6 illustration) to establish that the bonding limitation is identically disclosed by Stoll.

Applicant believes that Fig. 6 alone is not sufficient to establish that Stoll identically discloses the claim limitation of "a bearing device bonded to said housing at the inner surface thereof." Rather, as discussed further below, Applicant maintains that Stoll -- in conjunction with Figs. 6-8 -- teaches that bushing 41 (at projections 44) does not even come into contact with housing 3, much less bonded to it. Instead, in Fig. 6, the structure that surrounds bushing projection 44 is radial projection 45 (see Fig. 7), which is not part of housing 3 or bushing projection 44. (It appears housing 3 is disposed about radial projection 45.)

Nevertheless, even if it is assumed for discussion purposes that bushing projection 44 could contact housing 3 (although Applicant believes it does not), nowhere does Stoll expressly or inherently teach -- either in the drawings or text -- that bushing projection 44 (or any other part of bushing 41) is anywhere bonded or fixed to housing 3. Fig. 6 itself does not suffice as an express teaching that bushing 41 (at projections 44) is bonded or even provided in some other fixed mounting arrangement to housing 3. At most, continuing with the foregoing assumption, only an abutting engagement -- and not a fixed attachment -- could be asserted.

Fig. 6 is misleading in terms of what it appears to illustrate. Initially, it bears noting that Fig. 6 does not depict a common planar cross-section taken through the whole completed

assembly, but is a composite of two different cross-sectional halves combined together to produce the indicated view, i.e., the upper and lower halves are not mirror images of each other.

In particular, the upper half of Fig. 6 refers to the uppermost cross-sectional half plane (VI) in Fig. 7 (i.e., at the 12 o'clock position), while the lower half of Fig. 6 refers to the lowermost cross-sectional half plane (VI) in Fig. 7 (i.e., at the 7 o'clock position). (Col. 3, lines 25-30.) (See cross-sectional lines at center of Fig. 7.) Likewise, Fig. 7 itself is then not a true full cross-section taken completely through the assembled structure, since Fig. 7 is a cross-sectional view taken along lines VII-VII of Fig. 6, which itself is a composite view based on two different cross-sectional halves combined together.

Fig. 7 shows that there is no common annular structure that surrounds each interior part, i.e., the outermost annular structure in Fig. 7 is not common to all the radially interior parts but is actually several different parts depending upon the specific axial location that is being considered. For example, at different axial locations, the axially-extending bushing projection 44 is surrounded either by structure 45 (i.e., the 12 o'clock position in Fig. 7) or structure 25 (i.e., the 2 o'clock position in Fig. 7). Fig. 8 shows this more clearly. As shown in Fig. 8, structure 26 (which is part of support part or seal 8 in Fig. 2) forms a single annular ring with radial projections 45 extending from bushing projection 44. (Col. 8, lines 10-14.) This single ring is indicated in the plan view of Fig. 8 by element 26 being disposed orthogonally to bushing projections 44 (which extend axially on both sides of element 26). Elsewhere, though, at axial locations apart from the intersection of element 26 with radial projections 45 (and bushing projections 44 lying underneath), bushing projections 44 do not abut against housing 3 (much less bond thereto), but are surrounded by the same structure that surrounds support part (seal) 8,

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namely, annular holding part 23 (which has edge 25 referenced in Fig. 7). (Figs. 1-2; Fig. 6 at lower half of drawing; Col. 5, line 55 to Col. 6, line 3.)

Accordingly, even though in Fig. 6 the lower half of the drawing does show the arrangement of holding part 23 and part 8' in intimate contact with housing 3 (7), this same structure (housing 3, 7) does not also come into intimate contact with bushing projection 44 in the upper half of the drawing. Rather, depending upon the axial location, the axially-extending bushing projections 44 (disposed circumferentially as shown in Fig. 8) are surrounded either by radial projections 45 or holding part 23. In the view of Fig. 6 (upper half), bushing projection 44 is surrounded by radial projection 45, as indicated by Fig. 7. In the case of holding part 23 surrounding bushing projections 44, housing 3 is then disposed outwardly thereabout (such as shown in the lower half of Fig. 6). This appears also to be the case when bushing projections 44 are surrounded by radial projections 45, i.e., it appears that housing 3 surrounds radial projections 45.

Even if it is considered that radial projections 45 form part of bushing projections 44 -- although this characterization does not appear to have a foundation or basis in Stoll -- the structure of elements 44, 45 nevertheless does not bond or have any other fixed attachment to housing 3 (as discussed further below). At best, radial projection 45 would appear to abut against housing 3, but not bond or be fixed to it. Nevertheless, even if radial projection 45 (overlying bushing projection 44) did bond to housing 3 -- which Applicant believes it does not -- the bushing projection 44 cited by the Examiner would still not be considered as bonded to housing 3 since radial projection 45 is not part of bushing projection 44.

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Additionally, regarding Figs. 6 and 7, even if the drawings were so construed as to permit direct contact between bushing projection 44 and housing 3, these figures alone do not themselves expressly teach that bushing projection 44 (either itself or at 45) is bonded or other fixedly attached to housing 3, nor then is such a bonded connection an inherent teaching constituting a necessarily present feature. For example, if the Examiner determines from Figs. 6 and 7 that bushing projection 44 does indeed contact housing 3 (although Applicant maintains that such a determination cannot be supported), this finding nevertheless would not affect the ultimate conclusion that bushing projection 44 -- either itself or via radial projection 45 -- does not bond or have a fixed attachment to housing 3. (For purposes of the discussion below, references to bushing projection 44 also apply to the combination of bushing projection 44 and radial projection 45.)

Figs. 6 and 7 do appear to show intimate contact between bushing projection 44 (at radial projection 45) and housing 3, yet it is not necessary or required that such intimate contact be provided as a fixed attachment between the parts (e.g., bonding). Hence, a bonded connection between bushing projection 44 (at 45) and housing 3 is neither an inherent nor a necessarily present feature of the arrangement depicted in Fig. 6, much less an express teaching.

At best, Fig. 6 alone only shows that bushing projection 44 (at 45) abuts against housing 3. Applicant submits that Fig. 6 alone does not suffice as an express disclosure that bushing 41 (at projection 44) is bonded or otherwise fixedly secured to housing 3, 7. Stoll contains no textual description (express disclosure) of a bonding arrangement between bushing 41 (at projection 44) and housing 3, nor does the rejection cite any. Moreover, such a bonded

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arrangement is not inherent as a necessarily present feature drawn strictly from the Fig. 6 illustration.

Indeed, as discussed below, Applicant submits that various other disclosures from Stoll expressly indicate that bushing projection 44 (45) is not provided in any fixed or bonded relationship to housing 3, but at most is provided in an abutting (though not fixed or bonded) engagement.

Stoll states as follows in relevant part (emphasis and insertion added):

A further possibility of combination results from the selective use of a support part [8] with or without a piston rod guiding bushing [41, 44]. Therefore it is possible to make up a kit of parts with which the sealing and stripper ring may be put together in accordance with the specific requirement. (Col. 2, line 65 to Col. 3, line 2.)

In what follows, an account will be given of the embodiment of the invention illustrated in FIGS. 1 and 2, whose sealing and stripper ring 1 and 1' has an annular support part 8, with which it [seal 8] is preferably detachably secured in the operational position sealingly on the holder 7. (Col. 3, line 66 to Col. 4, line 4.)

For this reason it has an additional element in the form of a sleeve-like guiding bushing 41, which is fitted around the component [2] in the operational condition with play. It [bushing 41] is surrounded by the extended support part 8' which provides an external support action so that there is a firm anchoring action [of bushing 41] on the support part 8'. (Col. 7, lines 47-52.)

In the illustrated working embodiment the rod guiding bushing 41 is very effectively held since the support part 8" has a plurality of circumferentially spaced and axially extending slit-like gaps 43 in the part 42 surrounding the bushing 41, into which gaps the complementary rib-like projections 44 provided on the outer surface of the rod guiding bushing fit with a keying action. It is convenient if the rod guiding bushing 41 is permanently secured to the support part 8', for instance by injection molding the latter on the rod guiding bushing 41, which consists of harder synthetic resin or a metal such as sintered metal. (Col. 7, line 66 to Col. 8, line 9.)

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These strippers are furthermore suitable for fitting on a main body [8] fitted with a rod guiding bushing [41] or one without any such guiding bushing [41]. (Col. 8, lines 26-28.)

At most, regarding a fixed attachment, bushing 41 (with integral projection 44) may be "permanently secured to the support part 8" as indicated by Stoll. (As best shown in Fig. 2, part 8 -- along with its corresponding parts 8' and 8" in the later figures -- is a seal member having sealing lip 9 and first stripper lip 10. See Col. 3, line 66 to Col. 4, line 3; Col. 3, lines 46-47.) Hence, as indicated above, if support part 8 is "preferably detachably secured in the operational position sealingly on the holder 7 [part of housing 3]" -- and bushing 41 (with projections 44 cited by the Examiner) may be "permanently secured to the support part 8" -- the detachment capability of support part 8 (along with bushing 41 "permanently secured" thereto) necessarily requires that bushing 41 not be bonded to housing 3 or any other part of the system. This description in Stoll teaches away from the possibility of any bonded connection between bushing 41, 44 and housing 3. Nevertheless, these disclosures at least make clear that the purported bonding of bushing 41, 44 to housing 3 in Fig. 6 is not necessarily present (i.e., not inherent), much less identically disclosed as an express teaching.

The foregoing disclosures from Stoll also indicate that the use of bushing 41 (with projections 44 cited by the Examiner) is optional, e.g., bushing 41 may be one individual piece of a "kit of parts" that can be assembled (and disassembled) according to user preference. Accordingly, it would appear that the optional use of bushing 41 -- and specifically its use within a kit of parts -- indicates that bushing 41 (at projections 44, 45) does not necessarily or inherently bond to the housing. Instead, the kit arrangement seems to indicate the absence of bonding or

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other such fixed attachment -- especially to housing 3 -- since the kit of parts would be installed in the installation environment that at least includes housing 3 containing rod 2.

Additionally, referring to Fig. 6 and especially Fig. 7, bushing 41 is interfit with support part (seal) 8' in a key-like or interdigitated fashion as indicated by the keying insertion of bushing projections 44 within gaps 43 formed between connect sections 46 of support part 8'. (Col. 8, lines 1-5.) It appears, then, that the integral interfitting arrangement of bushing projections 44 and support part 8' would prevent bushing projections 44 (45) from being bonded or otherwise fixed to housing 3, since to do so would likewise fasten support part 8' to housing 3 and hence teach away from one of the express features of support part 8', namely, its detachable installation. Accordingly, it appears that bushing 41 (at projections 44) could not then be bonded to housing 3.

In view of the foregoing, Applicant respectfully submits that Claim 1 is patentable over Stoll. For reasons similar to those as applied to Claim 1, Applicant respectfully submits that base Claims 20, 29, 35, 42, and 46 likewise are patentable over Stoll.

Accordingly, Applicant believes that the claims are patentable over Stoll and respectfully requests that the rejection be withdrawn.

Applicant notes finally that Stoll does not recognize the problem (nor then propose a solution) that is addressed and remedied by the invention, at least as it pertains to the advantages and improvements offered by the bonded connection between the bearing device and housing. The invention recognizes the problem associated with seal elements extruding into clearance spaces (especially at bearing-to-housing interfaces), and provides, in one form of the invention, a solution that involves fixedly mounting (e.g., bonding) the bearing device to the housing to

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Applicant believes that the application is in condition for allowance and respectfully requests favorable action in accordance therewith.

If the Examiner has any questions or comments that would advance prosecution of this case, the Examiner is invited to call the undersigned at 260/484-4526.

Respectfully Submitted,



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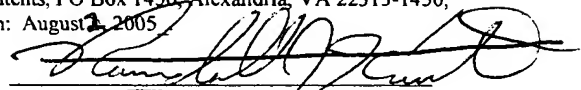
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Enclosures: Amendments to the Claims
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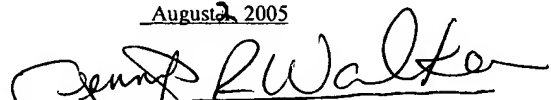
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